

TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja
From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT OF TUESDAY 06/11/2018

FOR: EVENTS OF MONDAY 05/11/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,900	22:00	05/11/2018
GENERATION CAPABILITY	7323.8	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5253.5	-do-	-do-
PEAK GENERATION	4923.4	-do-	-do-
LOWEST GENERATION	3140.2	04:00	05/11/2018
8-HOURLY DURATION PEAK	3652.5	0100-0800	-do-
	3876.1	0900-1600	-do-
	4923.4	1700-2400	-do-
PEAK GENERATION TO DATE	5222.3	21:00	18/12/2017
MAXIMUM AVAILABLE CAPACITY TO DATE	7652.6	06:00	14/04/2014
MAXIMUM ENERGY GENERATED (MWH) TO DATE	109,372.01	0000-2400	02/02/2016

1.2 CRITICAL VOLTAGE

DETAILS	KV	STATION	HRS
NOMINAL VOLTAGE	330		
STATUTORY LIMITS	280.5 - 346.6		
HIGHEST VOLTAGE FOR THE DAY	352	Uguwaju T/S	03:00
LOWEST VOLTAGE FOR THE DAY	296	Sakete T/S	19:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.88	00:31
LOWEST FREQUENCY	50.00	12:30

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 20th Sept, 2018		No. of days since last total collapse: 45												
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 204												
Highest No of days ever attained in-between total collapses: 134		Highest No of days ever attained in-between partial collapses: 240												
		Jan	Feb.	Mar.	Apr	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec	Total
2010	Total	---	3	1	--	3	3	3	--	2	2	1	4	22
	Partial	1	--	--	1	1	3	4	4	3	2	--	1	20
2011	Total	--	--	--	--	4	3	1	1	1	2	1	--	13
	Partial	--	1	1	--	--	--	--	1	--	1	2	--	6
2012	Total	--		2	1	5	2	1	--	--	2	2	1	16
	Partial	--		2	3	--	--	--	--	1	--	1	1	8
2013	Total	--	1	2	2	3	4	1	1	1	1	4	2	22
	Partial	--		--	--	--	--	--	--	2				2
2014	Total	2			2	0	3	1	0	0	1	0	0	9
	Partial			0	0	1	0	0	0	0	0	2	1	4
2015	Total	1	0	1	0	2	0	1	0	0	0	1	0	6
	Partial	--	--	1	0	2	0		0	0	1	0	0	4
2016	Total	--	--	2	3	6	5	0	0	1	1	2	2	22
	Partial	--	--	1	0	1	3	1	0	0	0	0	0	6
2017	Total	5	3	0	3	1	1	0	0	1	1			15
	Partial	1	0	1	0	0	0	1	0	3	3			9
2018	Total	5	1	0	0	0	1	1		2				10
	Partial	0	0	0	1	0				0				1

1.5 BREAKDOWN OF PEAK & OFF PEAK GENERATION (NATIONAL PEAK & OFF PEAK)

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN.(MW)			
1	KAINJI	HYDRO	398	298		
2	JEBBA	HYDRO	460	370		
3	SHIRORO	HYDRO	583	298		
4	EGBIN ST2 - 5	STEAM	447	338		
5	SAPELE	STEAM	48	0		
6	DELTA	GAS	520	382		
7	AFAM IV-V	GAS	65	52		
8	GEREGU GAS	GAS	143	80		
9	OMOTOSHO GAS	GAS	138.7	122		
10	OLORUNSOGO GAS	GAS	0	0		
11	GEREGU NIPP	GAS	0	0		
12	SAPELE NIPP	GAS	175	63.9		
13	ALAOJI NIPP	GAS	108.1	70		
14	OLORUNSOGO NIPP	GAS	214.2	71.6		
15	OMOTOSHO NIPP	GAS	222.4	134.5		
16	ODUKPANI NIPP	GAS	0	0		
17	IHOVBOR NIPP	GAS	109.2	75.2		
18	OKPAI	GAS	269	130		
19	AFAM VI	GAS	137	102		
20	IBOM POWER	GAS	76.8	62.6		
21	ASCO	GAS	0	0		
22	A.E.S	GAS	0	0		
23	OMOKU	GAS	56.1	51.9		
24	TRANS AMADI	GAS	31.6	36.3		
25	RIVERS IPP	(GAS)	0	0		
26	AZURA - EDO IPP	(GAS)	438	225		
27	EGBIN ST6	(GAS)	111	111		
28	PARAS ENERGY	(GAS)	68.6	66.2		
29	GBARAIN NIPP	GAS	103.7	0		
TOTAL			4923.4	3140.2		
1.6 ENERGY GENERATED/ENERGY SENT OUT:						
STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT		
		MWH	MWH/H	MWH	MWH/H	
1	KAINJI	HYDRO	9634.00	401.42	9617.20	400.72
2	JEBBA	HYDRO	10372.00	432.17	10347.24	431.14
3	SHIRORO	HYDRO	9720.00	405.00	9691.68	403.82
4	EGBIN ST2 - 5	STEAM	8554.00	356.42	8140.80	339.20
5	SAPELE	STEAM	548.00	22.83	476.40	19.85
6	DELTA	GAS	9678.37	403.27	9564.90	398.54
7	AFAM IV-V	GAS	1330.70	55.45	1324.19	55.17
8	GEREGU GAS	GAS	2539.50	105.81	2519.97	105.00
9	OMOTOSHO GAS	GAS	3113.00	129.71	3089.60	128.73
10	OLORUNSOGO GAS	GAS	0.00	0.00	0.00	0.00
11	GEREGU NIPP	GAS	0.00	0.00	0.00	0.00
12	SAPELE NIPP	GAS	2704.40	112.68	2682.94	111.79
13	ALAOJI NIPP	GAS	1977.56	82.40	1977.35	82.39
14	OLORUNSOGO NIPP	GAS	3097.50	129.06	3046.40	126.93
15	OMOTOSHO NIPP	GAS	4102.80	170.95	4076.40	169.85
16	ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17	IHOVBOR NIPP	GAS	2351.37	97.97	2330.56	97.11
18	OKPAI	GAS	4553.00	189.71	4435.00	184.79
19	AFAM VI	GAS	2772.18	115.51	2677.96	111.58
20	IBOM	GAS	1768.73	73.70	1760.00	73.33
21	ASCO	GAS	0.00	0.00	0.00	0.00
22	AZURA - EDO IPP	GAS	7076.40	294.85	7055.00	293.96
23	A.E.S	GAS	0.00	0.00	0.00	0.00
24	OMOKU	GAS	1304.80	54.37	1281.43	53.39
25	TRANS AMADI	GAS	838.30	34.93	818.20	34.09
26	RIVERS IPP	GAS	0.00	0.00	0.00	0.00
27	EGBIN ST6	STEAM	2504.00	104.33	2352.20	98.01
28	PARAS ENERGY	GAS	1636.40	68.18	1629.20	67.88
29	GBARAIN NIPP	GAS	318.50	13.27	310.00	12.92
TOTAL			92,495.51	3,853.98	91,204.62	3,800.19

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 06/11/2018

	STATIONS	NO OF INSTALLED UNITS	AVAILABLE UNITS	INSTALLED CAPACITY OF AVAILABLE UNITS(MW)	GENERATION CAPABILITY OF AVAILABLE UNITS(MW)	UNITS ON BAR	CAPABILITY OF UNITS ON BAR (MW)	GENERATION AT 06:00HRS (MW) AT 50.51Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	420	1G5, 6, 11 & 12 4	420	381	1G7 - Out on stator winding failure. 1G8 - Out due to oil leakage on governor runner head. 1G9 - Out due to burnt 7.5MVA 33/0.415kV & 183.6MVA 16/330kV station service transformer and generator transformer. 1G10 - Shut down due to thrust bearing temperature problem.
	JEBBA HYDRO	6	2G1 - 5 5	475	475	2G1 - 5 5	445	438	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4 4	600	600	411G1 - 4 4	600	322	411G2 & 3 - Generation reduced due to low load demand by the Discos.
	EGBIN STEAM	5	ST2, 4 & 5 3	660	600	ST2, 4 & 5 3	600	340	ST1 - Out due to undisclosed fault since 04/09/2018. ST3 - Out on high vibration since 19th June 2017. Generation reduced due to low load demand by the Discos.
	SAPELE (STEAM)	6	ST2 1	120	60	ST2 1	60	50	ST1 & 3 - Tripped on low drum level. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point. Generation reduced due to low load demand by the Discos.
	DELTA (GAS)	18	GT7, 9 - 13, 15, 16 & 19 & 20 10	545	545	GT7, 9 - 13, 15, 19 & 20 9	440	434	GT2 - Tripped on transformer differential lockout. GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT6, 8 & 14 - Out on major overhaul. GT16 - Out due to low load demand by the Disco. GT17 - Tripped on bearing vibration more than maximum. GT18 - Out due to generator lockout problem.
	AFAM IV & V (GAS)	8	GT18 1	75	70	GT18 1	70	54	GT1 - 12 - De-commissioned and scrapped. GT13,14 & 16 - Out on blade failure. GT17 - Out due to technical issue. GT19 & 20 - Awaiting major overhaul. Generation reduced due to low load demand by the Discos.
	GEREGU GAS	3	GT11 1	145	145	GT11 1	145	96	GT11 - Generation reduced due to low load demand by the Discos. GT12 & 13 - Tripped on natural gas valve position.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 6 & 8 4	152	102.2	GT3 - 5 & 7 - Out due to low load demand by the Discos. Generation reduced due to low load demand by the Discos.
	OLORUNSOGO GAS	8	GT1 - 8 8	304	304	0 0	0	0	GT1 - 8 - Out due to maintenance work at gas station.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	0 0	0	0	GT21 - Out on maintenance. GT22 & 23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 1	112.5	112.5	GT1 1	112.5	81.1	GT2 - Out on general maintenance. GT3 & 4 - Shut down due to air inlet filter proble.
	ALAOJI NIPP GAS	4	GT1 & 2 2	240	240	GT2 1	120	74.2	GT1 - Out due to low load demand by the Discos. GT2 - Generation reduced due to low load demand by the Discos. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	GT1 & 2 2	250	240	GT1 & 2 2	200.2	200.2	GT3 - Out on maintenance. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	375	360	GT1 & 2 2	240	180.9	GT4 - Out due to low load demand by the Discos. GT3 - Out on lube oil leakage.
	ODUKPANI NIPP	5	0 0	0	0	0 0	0	0	GT1 & 2 - Out on fault. GT3 & 5 - Out due to gas leakage. GT4 - Tripped on main transformer neutral O/C and HV protection.
	IHOVBOR NIPP	4	GT1, 2 & 4 3	337.5	337.5	GT4 1	112.5	109.5	GT1 & 2 - Out due to low load demand by the Discos. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	GT2 1	115	112.5	GT2 1	82	82	Available unit on bar.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	370	370	GT11, 12 & ST18 3	290	181	GT11 - Generation reduced due to gas constraint. ST18 - Generation reduced due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	225	GT11- 13 - Generation reduced due to low load demand by the Discos.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT11 1	150	116	GT12 - Out due to low load demand by the Discos. GT13 & ST10 - Out due to gas constraint.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	76.3	GT1 & 2 - Out due to fire outbreak on the control panel. GT3 - Generation reduced due to line constraint
	AES	9	0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO	2	0 0	0	0	0 0	0	0	ST1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2 & 5 3	75	70	GT1, 2 & 5 3	57.2	57.2	GT3 - Tripped on over speed. GT4 - Out on major overhaul. GT6 - Out on maintenance.
	TRANS-AMADI	4	GT1 & 2 2	50	50	GT1 & 2 2	40	31.9	GT4 - Out due to gas constraint. GT3 - Out on fault.
	RIVERS	1	0 0	0	0	0 0	0	0	GT1 - Out due to lube oil interlock problem
SUB TOTAL	140	75	7141	6921.5	53	4912.4	3632.5	Frequency = 50.51Hz.	

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 06/11/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	ST6	220	111	ST6	111	111	Available unit on bar.
		1			1			
PARAS ENERGY	8	GT2 - 9	70	67	GT2 - 9	67	67	Available units on bar.
		8			8			
SUB TOTAL	9	9	290	178	9	178	178	
GRAND TOTAL	149	84	7431	7099.5	62	5,090.40	3,810.50	Frequency = 50.51Hz

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 05/11/018								
EGBIN ST6 5MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY								
	FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HRS IN SERVICE	TOTAL (MWH)	REMARK
OGBA	U-STEEL	ON	0100HRS			24		NIL
	PTCEXPRESS	ON	0100HRS			24		NIL
	SANKYO	ON	0100HRS			24		NIL
	FEEDER 8	18	1000HRS			24		NIL
IKORODU	PULK IT	1	0100HRS			17		FAULTY 33K BUS ISOLATOR
	INDUSTRIAL	9	0800HRS			24		NIL
	SPINTEX	2	0800HRS			24		NIL
	DANGOTE	ON	0100HRS			17		FAULTY 33K BUS ISOLATOR
	LAND CRAFT	17	0300HRS			24		NIL
ALAUSA	TR4 15MVA	8	1400HRS			24		NIL
	TR5 -15MVA	5.6	1600HRS			24		NIL
	ALAUSA	14.1	1700HRS			24		NIL
M/LAND	PTC (MARYLAND)	17	0900HRS			24		NIL
	TOTAL LOAD							

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF MONDAY 05/11/018							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	69.4	12:00	59.2	03:00	24	1636.4	Nil

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: MONDAY 05/11/018									
COMPANY NAME	VOLTAGE LEVEL	CONTRACTUAL LOAD (MW)	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
INNER GALAXY	132kV line 2	0	30	19:00	0.1	01:00	24	167.8	SUPPLY NOT INTERRUPTED
KAM STEEL		15.0	0.4	18:00	0.2	01:00	24	5.9	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0.0	150	12:00	127	18:00	24	322.4	SUPPLY NOT INTERRUPTED
XING 1	33kV feeder	0.0	18.6	10:00	0.1	11:00	24	271.3	SUPPLY NOT INTERRUPTED
XING 2		0.0	27.5	10:00	16.8	08:00	24	518.35	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15.0	5.3	15:00	1.2	07:00	24	56.6	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	1.8	21:00	0.1	01:00	24	12.8	SUPPLY NOT INTERRUPTED
LORDSMITH		0	0.5	19:00	0.3	02:00	24	9.9	SUPPLY NOT INTERRUPTED

1.8 HYDROLOGICAL DATA: MONDAY 05/11/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.76	103.20	381.73
TAIL WATER ELEVATION (METERS)	105.35	75.2	271.8
GROSS OPERATING HEAD (METERS)	36.41	28.00	109.93
AVERAGE TURBINE DISCHARGE (M3/SEC)	1212.00	1688.00	434.00
AVERAGE SPILLAGE (M3/SEC)	383.00	298.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1595.00	1986.00	434.00
COMPUTED INFLOW (M3/SEC)	1903.00	1778.00	191.00
STORAGE DIFFERENTIAL	308.00	-208	-243
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	382.50
MINIMUM LEVEL BELOW WHICH NO GENERATION	130	99	355.00

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT MONDAY 05/11/018

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	548.0	16:00	521.75	342.6	07:00
EKO					
IKEJA	636.4	22:00	680.55	399.9	05:00

2.0 GAS POSITION: TUESDAY 06/11/2018

STATION	SIGNED ACQ Annual Contracted Quantity MMSCF/D	INSTALLED CAPACITY OF THERMAL STATIONS (MW)	PREVIOUS DAY OFF-TAKE (MMSCF/D)	CAPABILITY OF UNITS ON BAR OF THERMAL STATIONS (MW)	DIFFERENCE (MW)
EGBIN P/S	226	1100		600	500
DELTA (GAS)	430	915		440	475
OMOTOSHO GAS	0	336.8		152	184.8
OMOTOSHO NIPP	0	500		240	260
OLORUNSOGO (GAS)	185.2	336		0	336
OLORUNSOGO NIPP	151.9	750		240	510
SAPELE NIPP	112.9	500		112.5	387.5
SAPELE STEAM	50	720		60	660
AFAM IV-V	63	300		63	237
AFAM VI	117	650		150	500
GEREGU GAS	122	435		145	290
GEREGU NIPP	0	435		0	435
OKPAI (GAS/STEAM)	229	480		290	190
ALAOJI NIPP	79.9	504		120	384
IHOVBOR NIPP	150.1	112.5		112.5	0
IBOM	0	198		115	83
ODUKPANI NIPP	0	625		0	625
TOTAL	1917	8897.30		2840	6057.3

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : MONDAY 05/11/018

	(MW)	TIME	FREQUENCY
Maximum (MW)			
Minimum (MW)			
AVERAGE (MW)			

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 06/11/2018 = 0MW. FREQUENCY 50.51Hz.

S/N	POWER STATION	UNIT ON SPINNING RESERVE	CONTRACTED RESERVE	ACTUAL RESERVE (MW)	TOTAL (MW)
1	Egbin	ST2	100	0	0
		ST4		0	
		ST5		0	
		ST6		0	
2	Delta	GT16	40	0	0
		GT17	40	0	
3	Olorunsogo NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
4	Geregu NIPP	GT22	35	0	0
5	Omotosho NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
TOTAL (MW)			295	0	0

4.0 UNAVAILABLE GENERATION CAPABILITY

The unavailable generation capability for Tuesday 06/11/2018 as at 0600Hrs was = 2940MW.					
S/N	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Okpai GT11	145	20	125	1080
2	Afam VI GT13 & ST10	340	0	340	
3	Geregu NIPP GT22 & 23	290	0	290	
4	Trans-Amadi GT4	20	0	20	
5	Olorunsogo GT1 - 8	305	0	305	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1615.28MMSCF OF GAS (EQUIVALENT TO 6057.3MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Ibom GT3	115	62.6	52.4	52.4
			0	0	
			0	0	
			0	0	
4.3 DUE TO LOW LOAD DEMAND BY THE DISCOS					
1	Ihovbor GT1 & 2	225	0	225	1807.6
2	Azura-Edo GT11 - 13	461	225	236	
3	Omotosho Gas GT1 - 8	304	102.2	201.8	
4	Shiroro 411G1 - 3	450	176	274	
5	Delta GT20	100	0	100	
6	Alaoji NIPP GT1 & 2	240	74.2	165.8	
7	Afam VI GT12	150	0	150	
8	Geregu GT11	145	96	49	
9	Egbin ST2, 4 & 5	600	340	260	
10	Omosho NIPP GT4	120	0	120	
11	Sapele Steam ST2	60	50	10	
12	Afam IV GT18	70	54	16	
				0	
				0	
				0	
				0	
4.1 DUE TO WATER MANAGEMENT:					
					0
Grand Total					2940

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):

- 1 01:21 through 24:00Hrs, Rivers GT1 tripped due to the tripping of Afam/IPP 132Kv line 2. LHR = 90MW
- 2 03:05 - 18:44Hrs, Sapele NIPP GT3 was shut down due to air inlet differential pressure trouble. Load loss = 10MW
- 3 12:26 - 13:35Hrs, Egbin ST5 tripped on undisclosed fault. LHR = 110MW
- 4 14:15 - 15:34Hrs, Egbin ST5 tripped on undisclosed fault. LHR = 37MW
- 5 19:52 – 20:28Hrs, Gbarain NIPP GT2 tripped due to tripping of Alaoji /Owerri132kv line 2. LHR = 60MW

5(B) FORCED OUTAGES (TRANSMISSION):

- 1 00:31 - 15:20Hrs, Afam T/S 60MVA 132/33kV transformer T1 primary CB tripped on differential relay: differential pick up, differential trip, pick up time = 110ms, trip time = 17ms, low voltage REF trip. Inspection revealed a snake bridged the secondary side of the transformer. LHR = 0.1MW
- 2 01:21 - 02:22Hrs, Afam/IPP 132Kv line 2 CB tripped at Afam T/S on Micom relay: O/C TD, O/C instantaneous, E/F TD and E/F instantaneous. LHR = 52MW
- 3 01:21 - 02:20Hrs, Afam/Alaoji 132kV line 2 CB tripped at Afam T/S on no relay indication. LHR = 30MW
- 4 01:21 through 24:00Hrs, Rivers IPP/Elelenwo 132kV line CB tripped at Rivers IPP T/S on distance protection, distance PuLE2, PU time = 380ms, trip O/C start L1, L2 & L3. LHR = 22MW
02:10Hrs, Trial reclosure failed on the same relay indication.
- 5 13:53 – 14:16Hrs, Alaoji/Owerri 132kV line 2 CB tripped at Alaoji T/S on Siemens relay- E/F trip, ie> Blue phase and backup. LHR = 14MW
- 6 13:53 – 14:16Hrs, Owerri T/S 60MVA 132/33kV transformer TR2 primary CB tripped on E/F. LHR = 10.5MW
- 7 13:53 – 14:18Hrs, Alaoji/Owerri 132kV line 1 CB tripped at Owerri T/S on DEF. LHR = 20.8MW
- 8 13:53 – 14:28Hrs, Yenegoa T/S 90MVA 132/33kV transformer T1A primary & secondary CBs tripped on backup protection. LHR = 12.6
- 9 13:53 – 14:37Hrs, Yenegoa T/S 40MVA 132/33kV transformer T2A primary & secondary CBs tripped on back up protection. No load loss as the transformer was on soak.
- 10 19:52 – 19:59Hrs, Alaoji/Owerri 132kV line 2 CB tripped on Siemens relay: Directional E/F. LHR = 30MW
- 11 22:12 – 22:32Hrs, Kumbotso/Kankia 132kV line CB tripped on O/C Red & Blue phases. LHR = 45MW

5 (C) PLANNED OUTAGES:- NIL

5(D) URGENT OUTAGES:-

- 1 09:16 - 17:32Hrs, Shiroro/Mando 33kV line 1 (cct R1M) was taken out of service to treat serious arcing observed on the Red phase line isolator at Mando T/S. Load loss = 290MW
- 2 09:18 - 09:43Hrs, Mando T/S 330kV Bus coupler CB and Mando/Kano 330kV line were taken out of service due to continuous arcing observed on the bus coupler CB. Load loss = 235MW
- 3 12:47 – 14:27Hrs, Alimosho T/S 100MVA 132/33kV transformer T3 was taken out to seal point of leakage on the pipe fire prevention scheme. Load loss = 19.8MW
- 4 15:51 – 15:59Hrs, Osogbo/Akure 132kV line CB was taken out to isolate 30MVA 132/33kV transformer T1A at Akure T/S. Load loss = 21MW
- 5 17:03 – 17:20Hrs, Osogbo/Akure 132kV line CB was taken out to restore 30MVA 132/33kV transformer T1A. Load loss = 16MW
- 6 15:51 – 17:18Hrs, Akure T/S 30MVA 132/33kV transformer T1A was taken out to treat hotspot on the secondary Blue phase CT of the transformer. Load loss = 15MW

9 GENERATOR MERIT ORDER BASED ON SYSTEM RESPONSE AND GRID RELIABILITY

GROUP 1 - HYDRO UNITS (LEAST COST) ON FREE GOVERNOR CONTROL AND ANCILLARY SERVICE.

GROUP 2A - UNITS FROM ODUKPANI, AZURA, SHELL AFAM VI, AGIP OKPAI, OLORUNSOGO POWER PLC AND OMOTOSHO POWER PLC.

GROUP 2B - OTHER GENERATING UNITS IDENTIFIED TO BE ON FREE GOVERNOR CONTROL.

GROUP 3 - OTHER UNITS IDENTIFIED TO BE OFFERING REGULATORY RESERVE.

GROUP 4 - OTHER UNITS OFFERING SPINNING RESERVE (THE POWER PLANTS CONTRACTED FOR THE ANCILLARY SERVICE).

GROUP 5 - ALL PLANTS DISPATCHED SUBJECT TO TRANSMISSION CONSTRAINT (NOT YET IDENTIFIED).

GROUP 6 - ALL PLANTS PROVIDING VOLTAGE SUPPORT ABOVE STATUTORY LIMIT (NOT YET IDENTIFIED).

10 COMMUNICATION MEDIA

STATIONS	NO INSTALLED	NO. WORKING

5 (E) EMERGENCY OUTAGES:- NIL.

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:-

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts K4U, L7G, A1S & U1A.

5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- cct A1K.

5 (I) 330KV LINES THAT ARE OUT ON PLANNED OUTAGE:- NIL

5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- ccts D3T & J2H

5 (K) 330KV LINES THAT ARE ON SOAK:- ccts F1K & N4J

6 WEATHER REPORT:- Rainfall reported at Ikeja-West,

7 INTERNATIONAL LINES:-

A IKEJA WEST/SAKETE 330KV LINE(TCN+PARAS)

Maximum load - 299MW at 19:00Hrs.

Minimum load - 222MW at 08:00Hrs.

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 106MW at 15:00Hrs.

Minimum load - 82MW at 07:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 36.8MW at 19:00Hrs.

Minimum load - 14.6MW at 10:00Hrs.

8 MISCELLANEOUS:-

- 1 00:10 - 12:18Hrs, Delta GT20 was shut down due to low load demand by the Discos. Load loss = 72MW.

PLC/PAX	37	28
OPTIC FIBRE	13	10
PLS	14	4

11 SCADA RTU STATUS

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	7	1
330kV	19	11	8
132kV	102	92	10

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

- 1 Birnin Kebbi 75MX Reactor R1.

ABUJA REGION

- 1 Apo T/S 60MVA 132/33kV transformer TR3 - Burnt.

KADUNA REGION:

- 1 Kumbotso 150MVA 330/132/33kV transformer T1A - Burnt control cables.

BAUCHI REGION:

- 1 Gombe T/S -30MX Reactor R2A.

ENUGU REGION:

- 1 Onitsha T/S 90MVA 330/132/13.8kV transformer 9T2 - Out due to differential fault.

LAGOS REGION:

- 1 Oke-Aro T/S: 75MX Reactor R1.

PORT HARCOURT REGION

- 1 Ikot-Ekpene T/S: No reactor installed.

12 (B) UNAVAILABLE BREAKERS/ISOLATORS

LAGOS REGION:

- 1 Akangba T/S. 132kV Bus Coupler CB - Serious Air leakage.(Undergoing repair)
- 2 Egbin/Aja 330kV line 2 (cct N4J) - faulty breaker at Aja T/S
- 3 Otta/Ogba 132kV line isolator - defective control shaft.
- 4 Osogbo/Ikeja West and Olorunsogo/Ikeja West tie CB at Ikeja West T/S - defective pole .
- 5 Oke-Aro/Ikeja West 330kV lines 1 & 2 tie CB at Ikeja West T/S - Defective pole.
- 6 Omotosho/Ikeja West 330kV line CB at Ikeja West T/S.

BENIN REGION:

- 1 Omotosho T/S 330kV, 2nd series 330kV CB #3322 out due to control circuit problem.

ENUGU REGION:

- 1 New Haven/Yandev 132kV line CB - Faulty Red phase CB pole. Protection is transferred to the bus coupler CB.
- 2 Abakaliki T/S 30MVA 132/33kV transformer T1A and 60MVA 132/33kV transformer T2 primary CBs - Breakers were not provided since commissioning but the transformers are protected by Nkalagu 132kV line CB.
- 3 Oji River T/S 30MVA 132/33kV transformer T1A primary CB - The breaker is completely out of service and bypassed. The transformer is either protected by Onitsha/Oji 132kV line CB or New Haven/Oji 132kV line CB.
- 4 Oturkpo/Yandev 132kV By pass isolator - Canibalized to repair the line isolator.
- 5 New Haven/Nkalagu 132kV line 2 ground switch - Canibalized Red phase female contact and canibalized Yellow phase male contact.

SHIRORO REGION

- 1 Jebba T/S 75MX reactor 2R2 CB - exploded.

- 2 00:46 - 12:24Hrs, Sapele Steam ST2 was shut down due to low load demand by the Discos. Load loss = 50MW.
- 3 05:34Hrs, Okpai ST18 was tied. The unit was out on maintenance
- 4 12:20 – 19:13Hrs, Delta P/S GT16 was shut down due to low load demand by the Discos. Load loss = 68MW
- 5 16:04Hrs, Olorunsogo NIPP GT1 was tied. The unit was out due to low load loss demand by the Discos.
- 6 19:45Hrs, Gbarain GT2 was tied. The unit was out due to line constraint.

**** LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.
**** THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.

12(D) UNAVAILABLE CAPACITOR BANK:

- 1 (i) Ogba T.S, (ii) Maiduguri T/S, (iii) Isolo T/S, (iv) Ado-Ekiti T/S, (v) Ilorin T/S, (vi) Akure T/S.

12(E) UNAVAILABLE SKYWIRES

LAGOS REGION

- 1 Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21 spans.
- 2 Ikeja West/Olorunsogo line (cct R1W) - 80 spans.
- 3 330kV Ikeja West/Osogbo line. - 95 spans.
- 4 Ikeja West/Alimosho/Ogba 132kV lines 1 & 2 - 15 spans.
- 5 Ikeja West/Akangba 330kV line 2 - 1 span.
- 6 Ikeja West/ Ilupeju 132kV lines 1 & 2 - 8 spans.
- 7 Akangba/Itire 132kV lines 1 & 2 - 1 span.
- 8 Ikeja West/Agbara 132kV lines 1 & 2 - 61 spans.
- 9 Ikeja West/Otta 132kV lines 1 & 2- 17 spans.

SHIRORO REGION

- 1 Jebba T/S 330kV Osogbo lines 1 & 2 and Ganmo line - 9 spans
- 2 Minna T/S 132kV Bida line - 32 spans
- 3 Shiroro T/S 330kV Jebba line 2 - 28 spans

ABUJA REGION

- 1 Apo T/S 132kV Keffi line - 36 spans

12 (F) UNAVAILABLE SYNCHROSCOPES :

- 1 Ikeja West, Onitsha, Egbin, Ugwuaji, Jos, Gwagwalada & Alaoji T/S.

FOR MORE INFORMATION: NCC Telephone Lines -

- a PAX 09/300, 309, 303 & 305.
- b NCC GSM - 08074888524, 08069379367, 08023572651 & 08051401331. CUG Nos. 08129458488, 08129458489, 08129929806; 08036665323.
- c PLS - 622
- d GM (NCC) - 08036744641.
- e AGM (S/O) - 08056002757, CUG: 08129458475

